

## **System and Method for One-Time Programmed Memory Through Direct-Tunneling Oxide Breakdown**

### ***Abstract***

5 A one-time programing memory element, capable of being manufactured  
in a 0.13 $\mu$ m or below CMOS technology, having a capacitor, or transistor  
configured as a capacitor, with an oxide layer capable of passing direct gate  
tunneling current, and a switch having a voltage tolerance higher than that of the  
capacitor/transistor, wherein the capacitor/transistor is one-time programmable  
10 as an anti-fuse by application of a voltage across the oxide layer via the switch  
to cause direct gate tunneling current to thereby rupture the oxide layer to form  
a conductive path having resistance of approximately hundreds of ohms or less.

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